

EXHIBIT A

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS
SKYHOOK WIRELESS, INC.,
Plaintiff,
vs. Case No.: 1:10-cv-11571-RWZ
GOOGLE, INC.,
Defendant.

GOOGLE, INC.,
Counterclaim-Plaintiff,
vs.
SKYHOOK WIRELESS, INC.,
Counterclaim-Defendant.

VIDEOTAPED DEPOSITION OF ANTHONY S. ACAMPORA, Ph.D.
San Diego, California
Thursday, September 22, 2011
Volume 1

Reported by:
Claire A. Wanner
CSR No. 12965, RPR
Job No. 172844

1 APPEARANCES:

2 For Plaintiff:

3 Irell & Manella LLP
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9 For Defendant:

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11 BY: ROBERT C. BERTIN, ESQ.
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Also Present: Daniel Payan, Videographer
Mark Zavislak, Google
Jennifer Polse, Google

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1 UNITED STATES DISTRICT COURT
2 DISTRICT OF MASSACHUSETTS
3 SKYHOOK WIRELESS, INC.,
4 Plaintiff,
5 vs. Case No.: 1:10-cv-11571-RWZ
6 GOOGLE, INC.,
7 Defendant.

8 GOOGLE, INC.,
9 Counterclaim-Plaintiff,
10 vs.
11 SKYHOOK WIRELESS, INC.,
12 Counterclaim-Defendant.

13
14
15
16
17 Videotaped deposition of ANTHONY S. ACAMPORA,
18 Ph.D., Volume 1, taken on behalf of Plaintiff, at
19 402 West Broadway, Suite 900, San Diego, California,
20 beginning at 9:07 a.m., and ending at 5:41 p.m. on
21 Thursday, September 22, 2011, before Claire A. Wanner,
22 Certified Shorthand Reporter No. 12965, RPR.
23
24
25

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1 INDEX

2 WITNESS: Anthony S. Acampora, Ph.D.

3
4 EXAMINATION PAGE
5 BY MR. LU 7
6

7 EXHIBITS
8 MARKED FOR PLAINTIFF PAGE

9 Exhibit 1 Document entitled "United States Patent No.: US 7,414,988 B2" 8
10 dated August 19, 2008; 20 pages
11 Exhibit 2 Document entitled "United States Patent No.: US 7,433,694 B2" 8
12 dated October 7, 2008; 20 pages
13 Exhibit 3 Document entitled "United States Patent No.: US 7,305,245 B2" 8
14 dated December 4, 2007; 20 pages
15 Exhibit 4 Document entitled "United States Patent No.: US 7,474,897 B2" 8
16 dated January 6, 2009; 14 pages
17 Exhibit 5 Document entitled "Declaration of Anthony S. Acampora., Ph.D." 8
18 dated September 14, 2011;
19 66 pages

20 Exhibit 6 Document entitled "Exhibit 1" 8
21 dated September 14, 2011;
22 48 pages

23 Exhibit 7 Document entitled "Declaration Of Susan Baker Manning In Support of Google Inc.'s Motion For Summary Judgment Of Indefiniteness And, In The Alternative, Opening Claim Construction Brief" dated September 14, 2011; six pages
24
25

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1 (Index Continued)	1 assumed to be on the record and will be transcribed.
2 Exhibit 8 Document entitled "Exhibit 7" 72	2 Would counsel at this time please identify
3 dated September 14, 2011; four	3 yourselves and state whom you represent.
4 pages	4 MR. LU: Samuel Lu of Irell & Manella for
5	5 Skyhook Wireless.
6	6 MS. SOMAIT: Lina Somait, Irell & Manella for
7	7 Skyhook Wireless.
8	8 MR. BERTIN: Robert Bertin with
9	9 Bingham McCutchen for Google.
10	10 MS. POLSE: Jennifer Polse of Google.
11	11 MR. ZAVISLAK: And Mark Zavislak of Google.
12	12 THE VIDEOGRAPHER: Thank you. At this time
13	13 the court reporter may swear in the witness.
14	14
15	15 ANTHONY S. ACAMPORA, PH.D.,
16	16 having been administered an oath, was examined and
17	17 testified as follows:
18	18
19	19 EXAMINATION
20	20 BY MR. LU:
21	21 Q. Good morning, Dr. Acampora.
22	22 A. Good morning.
23	23 MR. LU: Before we begin, I think I want to
24	24 take care of a little bit of housekeeping. I have some
25	25 exhibits that I'd like to mark.
Page 5	Page 7
1 San Diego, California; Thursday, September 22, 2011	1 Exhibit 1 will be U.S. Patent No. 7414988.
2 9:07 a.m. - 5:41 p.m.	2 (Exhibit 1 was marked.)
3	3 MR. LU: Exhibit No. 2 will be U.S. Patent No.
4 THE VIDEOGRAPHER: Good morning. Here begins	4 7433694.
5 Media No. 1 of the deposition of Anthony S. Acampora,	5 (Exhibit 2 was marked.)
6 Ph.D., in the matter of Skyhook Wireless, Incorporated,	6 MR. LU: Exhibit No. 3 will be U.S. Patent No.
7 versus Google, Incorporated.	7 7305245.
8 This case is in the United States District	8 (Exhibit 3 was marked.)
9 Court, District of Massachusetts, and the civil action	9 MR. LU: Exhibit No. 4 will be U.S. Patent No.
10 number is 1:10-CV-11571-RWZ.	10 7474897.
11 Today's date September 22nd, 2011. The time	11 (Exhibit 4 was marked.)
12 is 9:08 a.m. This deposition is taking place at	12 MR. LU: Exhibit No. 5 will be a document
13 Sarnoff, 402 West Broadway, Suite 900, San Diego,	13 entitled, "Declaration of Anthony S. Acampora, Ph.D."
14 California 92101. This deposition is taken on behalf	14 (Exhibit 5 was marked.)
15 of the plaintiffs. The videographer is Daniel Payan,	15 MR. LU: And Exhibit 6 will be a document that
16 appearing on behalf of Sarnoff Court Reporters & Legal	16 is labeled Exhibit 1, which I will represent to you is
17 Technologies, located in San Diego, California.	17 an Exhibit 1 attached to the declaration of
18 All present, please take notice that as a part	18 Anthony S. Acampora, Ph.D.
19 of videotaping of this deposition, very sensitive	19 (Exhibit 6 was marked.)
20 high-quality microphones are being used. If anyone	20 BY MR. LU:
21 present wishes to make a statement off the record, they	21 Q. So Dr. Acampora, could you please state your
22 should state that they are going off the record and	22 full name for the record?
23 gain concurrence from all parties. The videographer	23 A. Anthony Acampora.
24 will then stop recording. All recorded comments made	24 Q. And what is your present business address?
25 by anyone present during this deposition will be	25 A. I have two. I'm professor of electrical
Page 6	Page 8

1 one of the defendants in one of these
2 multiple-defendant matters. But I was not engaged by
3 Google, as near as I can recall, in any of these
4 matters.

5 Q. So in connection with this matter, how much
6 are you being paid?

7 A. \$600 an hour, which is my customary rate.

8 Q. And to date how much have you billed?

9 A. Ballpark estimate, about \$20,000. That might
10 be a little bit on the high side, but that's -- that's
11 probably a good estimate.

12 Q. Okay. Ballpark, what percentage of your total
13 annual income comes from consulting as an expert
14 witness?

15 A. Well, that's varied over the years. But if
16 you're asking --

17 Q. Presently.

18 A. -- presently, 60 to 70 percent.

19 Q. And how much have you made over the past two
20 years in terms of expert witness consulting --
21 ballpark?

22 A. Well, I don't want to assume that you mean
23 paid to my consulting company as opposed to paid to me
24 in salary from my consulting company.

25 Q. Well, how is your consulting company

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1 structured, first of all?

2 A. It's a C corporation.

3 Q. Okay. And who's the owner of the consulting
4 company?

5 A. My wife and I are co-owners.

6 Q. So let's break that question into two.

7 How much money has your corporation received
8 in the past two years from expert consulting work that
9 you have done?

10 A. Ballpark figure, it's probably been 1.5 to
11 \$1.6 million.

12 Q. And that's for both --

13 A. That's over a two-year period.

14 Q. -- over a two-year period?

15 A. Yes.

16 Q. Okay. And how much have you been paid
17 personally from your corporation for the work that
18 you've done on behalf of that corporation relating to
19 expert consulting work?

20 A. Okay. So I'm taking that question to mean,
21 what was I paid in salary from my corporation over the
22 past two years. And it's probably in the range of
23 \$600,000.

24 Q. How much has your wife been paid from the
25 corporation over the past two years?

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1 A. Under \$100,000.

2 Q. So please describe what you've done since
3 you've been retained by Mr. Bertin's firm in connection
4 with this litigation?

5 MR. BERTIN: I'm just going to state on the
6 record that Dr. Acampora is being offered as a witness
7 on claim construction.

8 MR. LU: So noted.

9 THE WITNESS: I read the patents. I read the
10 prosecution history. I had numerous telephone
11 conversations with Mr. Bertin. I attended a
12 face-to-face meeting with Mr. Bertin and Mr. Lebar, and
13 I prepared my report -- my declaration.

14 BY MR. LU:

15 Q. Okay. Did you speak to any individuals other
16 than the employees at Google and the employees at
17 Bingham that you've identified today in connection with
18 your work on this matter?

19 A. No.

20 Q. Did you do any prior art searches in
21 connection with your work on this matter?

22 A. No.

23 Q. Did you look at any Google products or
24 services in connection with your work on this matter?

25 A. No.

Page 19

1 Q. Did you look at any Skyhook products or
2 services in connection with your work on this matter?

3 A. No.

4 Q. Have you heard of the patent in suit prior to
5 your work on this matter?

6 A. No.

7 Q. Had you heard of Skyhook Wireless prior to
8 your work on this matter?

9 A. No.

10 Q. Had you -- were you aware of Google location
11 services prior to your work on this matter?

12 A. In passing, yes.

13 Q. And what do you mean by "in passing"?

14 A. Well, I know that they're -- as an example, on
15 my iPhone I could -- or on my laptop -- I can certainly
16 go to Google map. But my awareness of any location
17 services that might be provided by Google are -- are --
18 are -- are really not any deeper than that.

19 Q. Now, Dr. Acampora, I assume that you received
20 a copy of a subpoena asking you to appear here today
21 for the deposition, correct?

22 A. I was aware there was such a subpoena, and I
23 actually saw that subpoena yesterday.

24 Q. And were you -- did you see a second
25 subpoena -- or perhaps the same subpoena -- directed

Page 20

1 towards asking you to produce documents in connection
 2 with your expert declaration?
 3 A. I did yesterday. But I was informed
 4 earlier -- I believe it was earlier this week -- that I
 5 was to produce all of the material I relied on, which I
 6 did.
 7 Q. Okay. And what were the -- the materials that
 8 you relied on, those were produced to Mr. Bertin?
 9 A. I believe so.
 10 MR. LU: Okay. And Mr. Bertin, I just want a
 11 representation that all of materials that Dr. Acampora
 12 relied upon were, in fact, produced to us as part of, I
 13 guess, the declaration of Susan Baker Manning.
 14 MR. BERTIN: Yes. That's -- that's correct.
 15 BY MR. LU:
 16 Q. Okay. Have you seen the declaration of
 17 Susan Baker Manning?
 18 A. I did.
 19 Q. And were there any materials that you relied
 20 upon that were not in the declaration of
 21 Susan Baker Manning?
 22 A. Oh, I would need to look at that declaration
 23 to answer that question.
 24 Q. Sure. We'll pull that out.
 25 Were there documents -- did you look at any of

Page 21

1 the dictionary definitions that were provided by
 2 Skyhook as part of the claim construction process?
 3 A. Not that I can recall.
 4 Q. Okay. So I'd like to have marked as
 5 Exhibit No. 7 the declaration of Susan Baker Manning --
 6 A. Can I back up for a second just to be sure
 7 that I answered that previous question correctly?
 8 I'm assuming you mean as part of the
 9 preparation of my declaration? Answer: No. Have I
 10 seen -- have I subsequently seen dictionary definitions
 11 that were produced by Skyhook? Probably, because I did
 12 look at Skyhook's claim construction brief after it was
 13 filed.
 14 Q. But prior to the filing of your declaration,
 15 you did not review any of the dictionary definitions
 16 provided or produced by Skyhook in this litigation?
 17 A. That's correct.
 18 MR. LU: Do we have the exhibit stickies?
 19 There you go.
 20 BY MR. LU:
 21 Q. So Dr. Acampora, I've put before you
 22 Exhibit No. 7, which is the declaration of
 23 Susan Baker Manning.
 24 (Exhibit 7 was marked.)
 25 MR. LU: Take a few moments to review this,

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1 and let me know if there are any documents that you
 2 relied upon in connection with your expert report --
 3 your expert declaration -- excuse me -- that are not
 4 listed in this declaration.
 5 A. I believe that the answer to your question is
 6 no. But to totally confirm that, I would need to look
 7 at my own declaration to see if there's any -- and --
 8 and do some sort of a -- a cross check between what's
 9 in my declaration and what's in Ms. Manning's
 10 declaration.
 11 Q. Okay. But sitting here right now, you not
 12 aware of anything that's listed in -- that's listed in
 13 your expert report? Well, let me strike that question.
 14 So your expert report lists all of the
 15 materials that you relied upon in the preparation of
 16 that expert report?
 17 A. I believe that's the case.
 18 Q. Okay. And just to make things clear, since
 19 both of us have been referring to your expert
 20 declaration --
 21 A. Declaration.
 22 Q. -- as an expert report, for the purposes of
 23 this deposition, if we refer to your expert report, it
 24 will be understood that we're referring to your expert
 25 declaration, Exhibit No. 5.

Page 23

1 A. That's fine.
 2 Q. Okay. Did you review any legal cases in
 3 connection with the preparation of your expert
 4 declaration?
 5 A. Any legal cases?
 6 Q. Any case law?
 7 A. Did I -- did I personally review case law?
 8 Q. Correct.
 9 A. No. I was provided with instructions with
 10 regard to claim construction that reproduced in my
 11 declaration. And they may be referenced -- I -- I
 12 would need to double-check. There may be reference to
 13 case law there. There may not be, but I was provided
 14 with instructions. I did not personally review any
 15 case law --
 16 Q. Okay.
 17 A. -- with regard to the preparation of my
 18 declaration.
 19 Q. So let's turn to your declaration for a
 20 moment. That's Exhibit No. 5. Whether you want to
 21 refer to the declaration you have in front of you or
 22 the actual exhibit --
 23 A. This one appears to be less unwieldy.
 24 Q. Fair enough.
 25 So I'd like you to turn to page 26, which is

Page 24

1 A. Range might be one. Wireless local area
2 networks or the range on an access point was not
3 necessarily intended to be beyond -- much beyond a few
4 hundred feet, or cellular systems might have ranges
5 that -- well, they may be that small. Some base
6 stations may have a range that extend to -- that may
7 extend to several miles. That's one type of
8 difference. They operate in accordance with different
9 standards. They use different parts of electromagnetic
10 spectrum. They use different modulation and coding
11 techniques. They have different design objectives.

12 Q. What do you mean by "different design
13 objectives"?

14 A. Availability, quality of service -- things of
15 this type.

16 Q. What do you mean by "availability"?

17 A. One of the issues that we face in wireless
18 communications is the fact that the signal strength is
19 not constant. Signal strength can fluctuate for a
20 variety of reasons. Line-of-sight blockage, multipath
21 propagation, movement of client devices.

22 Cellular systems, for the most part, are
23 designed with a higher availability requirement than a
24 wireless, local area network might be. Cellular
25 systems are designed so that there's a certain quality

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1 of service guarantee. As an example, for basic
2 cellular telephony, there are two things that we need
3 to be concerned with. What is the likelihood that you
4 try to place a cell call and the call doesn't go
5 through because there wasn't a circuit available? And
6 you need to be sure that the cellular system is
7 designed so that that does not happen more than some
8 specified fraction of the time. You need to be sure
9 the call is not dropped because the user moves out of
10 range of coverage and can't be picked up by a
11 surrounding cell tower. Or the signal might be
12 dropped -- blocked or dropped because the signal
13 strength simply fades below some floor. You need to
14 guarantee a certain call-blocking rate for wireless
15 local area networks. These may or may not be design
16 criteria.

17 Some wireless networks -- my at-home
18 network -- I bought a wireless router, and I installed
19 it. And it's giving me pretty good service. I'm the
20 only one using it, but -- so I don't need to be worried
21 about the air link becoming clogged because there's too
22 much demand for a juice. I'm the only user. But in
23 terms of -- of coverage, parts of my house have great
24 coverage, and other parts of my house where I have no
25 signal. In a cellular system, that would probably not

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1 be acceptable. I would need to do something to fix
2 that.

3 Q. Okay. Any other differences between cellular
4 systems?

5 A. Well, we can spend all afternoon -- or all
6 morning and all afternoon talking about that, if you
7 want. So how much detail do you want to get down to?

8 Q. Well, what are the other major differences, in
9 your view?

10 A. I already mentioned that they use different
11 parts of the spectrum. They're deployed with different
12 objectives in mind, different service quality
13 objectives, different modulation and coding techniques,
14 different capacities.

15 How much more detail do you want to get into?
16 I can take any one of these topics and take you down to
17 the next plateau.

18 Q. Well, let's ask about some -- let's ask about
19 some differences that I had in mind.

20 Who controls the cell towers?

21 A. I'm not sure what you mean by "control."

22 Q. Well, when you -- when you install a cell
23 tower, who does the installation there?

24 A. I'm still not quite sure what you mean.

25 Q. If I'm -- if I've got a Verizon -- Verizon

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1 phone, and I'm connecting to a Verizon -- a cell tower,
2 who owns that cell tower?

3 MR. BERTIN: Object to form.

4 THE WITNESS: Okay.

5 BY MR. LU:

6 Q. Let me phrase --

7 A. I -- I --

8 Q. Let me phrase it to you a little differently.

9 So there's a cell tower infrastructure that a
10 particular network provider creates, correct, or
11 builds?

12 A. I -- I think I understand what you're asking.
13 I think the answer is yes, but why don't I let you go
14 on to see where it's -- where it's going.

15 Q. Okay.

16 A. And if I need to correct what you said, I
17 will.

18 Q. All right. So a particular network
19 provider -- let's use Verizon as an example -- would
20 have a -- would have cell towers that it controls,
21 correct?

22 A. I'm -- I'm -- I'm -- I -- I think the answer
23 to the question as you're -- as I'm interpreting
24 "control," I think the answer to the question is -- is
25 yes, but --

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1 A. No.
 2 Q. Quick question, Dr. Acampora. Can you read
 3 source code?
 4 A. No.
 5 Q. Can you write source code?
 6 A. No.
 7 Q. Do you have any computer programming
 8 experience?
 9 A. Well, that's not a simple yes or no.
 10 I certainly programmed in the past. My
 11 students all program, and I supervise their work. So I
 12 guess the answer is, yes, I have had experience in
 13 writing programs in my past.
 14 Q. When you say in your past writing programs --
 15 A. I -- I think that was your question.
 16 Q. That was my question.
 17 A. Yes.
 18 Q. My -- my question is, when you say that you
 19 have experience writing programs in the past, are you
 20 talking about putting hands -- fingers to keys on
 21 keyboard, as you used that terminology previously
 22 today?
 23 A. I've done that.
 24 Q. Okay. And how long ago was that?
 25 A. Long time ago.

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1 Q. When you say long time ago, are we talking
 2 '80s? '90s? '70s? Punch cards?
 3 MR. BERTIN: Object to form.
 4 THE WITNESS: All of the above.
 5 BY MR. LU:
 6 Q. Okay. So when was the last time you had --
 7 where you wrote source code for a computer program?
 8 A. I don't know if I've ever written source code.
 9 That wasn't the question you asked.
 10 Q. What was -- what was the programming
 11 experience that you had? What did you write?
 12 A. Mostly computer simulations and, in some
 13 cases, actual formulas that were needed to produce
 14 numerical results at the end of a fairly extensive
 15 theoretical analyses.
 16 Q. So we're talking about something like math lab
 17 -- MATLAB?
 18 A. I've used MATLAB.
 19 Q. When you said "putting together formulas," are
 20 you referring to the use of MATLAB?
 21 A. Well, no. I actually wrote my own programs
 22 specifically to compute what needed to be computed.
 23 I've also used MATLAB, but less often.
 24 Q. And when you refer to simulations, that also
 25 referred to writing programs?

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1 A. Yes.
 2 Q. And how -- that was not source code because it
 3 was in Basic or some other --
 4 A. Yes. I was it was in programming language,
 5 not source code, correct.
 6 Q. Okay. Do you have any database programming
 7 experience?
 8 A. I'm not sure what you mean by that. I've got
 9 experience with databases.
 10 Are you asking whether I've written source
 11 code to create database or to operate a database? The
 12 answer is no.
 13 Q. Do you have any experience in programming
 14 servers?
 15 A. Well, I'm going to ask you to clarify that
 16 question. I'm not sure what you mean by "programming
 17 servers." I gave you my programming experience before.
 18 If the computers upon which my programs
 19 execute are servers, then the answer to the question is
 20 yes.
 21 Q. Okay. But you have no experience writing
 22 source code that is used to operate a server?
 23 A. That is correct.
 24 Q. I'm going to put before you what I'm going to
 25 mark as Exhibit 8, which, to confuse things, is

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1 Exhibit 7 from the declaration of Lina Somait in
 2 support of Skyhook's claim construction brief.
 3 (Exhibit 8 was marked.)
 4 BY MR. LU:
 5 Q. I'd like you to refer to the definition of
 6 triangulation in this dictionary definition, which is
 7 from the American Heritage Science Dictionary. And it
 8 reads, for triangulation: "The method of determining
 9 the relative position of points in space by measuring
 10 the distances and sometimes angles between those points
 11 and other reference points whose positions are known.
 12 Trigo- -- triangulation often involves the use of
 13 trigonometry."
 14 Do you see that?
 15 A. I do.
 16 Q. Is that definition of triangulation consistent
 17 with your definition of triangulation provided in your
 18 expert declaration?
 19 A. I think this definition is a subset of my
 20 definition.
 21 Q. So your definition requires the formation of
 22 triangles; is that correct?
 23 A. Well, again, with the understanding that if
 24 we're dealing in three dimensions, these are
 25 generalized triangles that have four vertices.

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1 Second problem, same nature, is the Chinese
2 postman problem. Here, I've got a graph defined by
3 edges. And what I want to do is ensure that I drive
4 along each edge -- I cover each edge in such a way that
5 the total distance that I've driven is as small as
6 possible.

7 Q. And what do you mean that it's an
8 optimization?

9 A. The problems of this type are known as
10 optimization problems in the field.

11 Q. Why are they optimization problems?

12 A. Well, notice I said I'm trying to minimize the
13 distance covered. So I'm optimizing my route to
14 achieve some objective function. The objective in this
15 case being to minimize the distance traveled. And
16 there's a cost associated with -- in the Chinese
17 postman example, there's a cost associated with each --
18 with each link, namely its distance. When I drive this
19 link, I've accrued a certain distance. What I'm trying
20 to do is add up all those distances so that the total
21 is as small as possible but such that the subject can
22 be restrained at each edge -- is covered at least once.
23 I can cover an edge twice in order to minimize the
24 distance, but each edge has to be covered at least
25 once, and I need to cover -- I need to do that in the

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1 shortest distance total.

2 Q. But one could drive other routes that cover
3 each edge at least once but that don't minimize the
4 distance, correct?

5 MR. BERTIN: Object to form. Mischaracterizes
6 testimony.

7 THE WITNESS: Well, are you saying can I drive
8 some other route that covers each edge but doesn't
9 minimize the distance?

10 I suppose that one could do that, but that's
11 not what's in the patent. Because if you were to do
12 that -- one way to do it is -- just to make up an
13 example -- just take Manhattan, rectangular streets and
14 avenues. And first, just drive up and down each street
15 when you get to the -- to the edge of Manhattan Island.
16 You know, make a right turn, go to the next street,
17 drive down, so forth and so on. When you get to the
18 northernmost boundary, repeat the process by now
19 driving the avenues of, first, north to south and south
20 to north and complete the process. Except along the
21 way, for whatever reason, I decide I'm going to
22 backtrack and cover three streets 10 times.

23 Now, using your criteria, I would have covered
24 every edge, but that would be contrary to what's
25 actually taught in the patent. Because if I were to do

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1 that -- remember the purpose of driving in this
2 deliberate fashion in the patent is to scan for WIFI
3 access points, and I would have recorded the same
4 access points more times along the streets that I drove
5 multiple times. And that would not accomplish the
6 objective of creating a more accurate database.

7 Remember here, you need to cover each street at least
8 once, but try to cover each street the fewest time in
9 order to ensure that you've got each street covered
10 once, and you haven't spent, you know, three days
11 driving up and down in order to collect the data. So
12 the -- the patent was pretty deliberate in terms of --
13 of disclosing how to accomplish this routing for the
14 purposes of scanning the WIFI database -- the WIFI
15 access points.

16 BY MR. LU:

17 Q. So that alternative route would be a
18 nonoptimized route, correct?

19 A. The alternative route would -- would not have
20 accomplished the objectives of the invention; that's
21 correct. And if that's what you mean by not optimized,
22 then it would not be optimized.

23 Q. Well, I'm referring to optimized in terms of
24 what you've been referring to optimized, which is
25 minimizing the distance that's covered.

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1 A. In this case, in the case of this patent, that
2 is a criteria.

3 Q. And so a --

4 A. That's what the Chinese postman problem --
5 that's the problem the Chinese postman solution
6 addresses.

7 Q. And so there are other routes that do not
8 drive a Chinese postman route that would cover each and
9 every street and each and every corner, but it would
10 not be optimized because the distance covered would be
11 greater than the Chinese postman algorithm route?

12 A. It -- it -- it's worse than that. It's not
13 just the distance wouldn't be minimized, but it's also
14 the fact that you will have covered -- you may have
15 covered each street many times, which you don't want do
16 if -- if -- you don't want to do unnecessarily because
17 that will introduce errors that the invention, if any,
18 is intended to avoid.

19 Q. I'd like you to turn to page 7 and paragraph
20 22. Second sentence says: "The scanning is performed
21 using a Chinese postman format to drive each street a
22 minimum number of times and preferably only once to
23 avoid introducing a bias towards certain streets."

24 Do you see that?

25 A. I do.

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1 expert reports have you submitted in connection with
2 claim construction in your role as an expert witness?

3 A. Rough estimate, 20.

4 Q. So do you have an understanding of the process
5 of construing a claim in a court in a patent case?

6 A. Well, I don't know. And the reason I don't
7 know is in each and every instance among these
8 approximately 20, including the current matter, I was
9 provided with a set of instructions that I was asked to
10 follow in performing my opinions. Those instructions I
11 understand.

12 Whether they conform to some other criteria
13 that you're alluding to, I'm not a lawyer. I don't
14 know. But I do know the instructions that I was
15 provided with, and I'd be happy to tell you what they
16 are. And these are the -- these are the instructions
17 that I followed in forming my opinions.

18 Q. So you don't have any formal legal training in
19 patent law?

20 A. That's correct.

21 Q. Okay. And as you mentioned, you are not a
22 lawyer. You have no JD?

23 A. That's correct.

24 Q. So where are the instructions that you
25 followed for the purposes of the -- of construing the

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1 claims in this particular case?

2 A. They begin on page 26 of my declaration.

3 Q. That's the section that's labeled "claim
4 construction principles"?

5 A. That's correct.

6 Q. And where do they end?

7 A. They appear to end on page 28. But without
8 reviewing the entire document, I don't know if there
9 may be any other claim construction principles
10 appearing elsewhere in my declaration. There are none
11 that I'm aware of right now. I believe they're all
12 contained in these four pages.

13 Q. Other than the claim construction
14 principles --

15 A. Three pages.

16 Q. Sorry.

17 Other than the claim construction principles
18 that are listed in pages 26, 27, and 28, and what may
19 appear elsewhere in your declaration, were you provided
20 any other instructions regarding how claim construction
21 is to proceed?

22 A. Not to apply a -- a term that is sprinkled
23 throughout my report of indefinite -- but I find your
24 question indefinite.

25 What time frame would you be referring to now?

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1 Q. In preparing your report, were you provided
2 any principles of claim construction that are not
3 articulated in your report or declaration, including
4 the claim construction principles listed on page 26,
5 27, and 28?

6 A. Okay. There may have been some additional
7 discussion with regard to claim construction principles
8 that I was exposed to as I was preparing my
9 declaration. But the principles that I applied are
10 contained on these three pages.

11 Q. Do you recollect what other principles you may
12 have been exposed to that would not be listed on these
13 three pages or anywhere else in your declaration?

14 A. Not that I can recall.

15 Q. As an expert, what do you understand -- strike
16 that.

17 What do you understand your role as an expert
18 to be in the claim construction process?

19 MR. BERTIN: Object to form.

20 THE WITNESS: I believe that it's my role to
21 offer an opinion as to how one of skill in the art
22 would view the proper construction -- or would view the
23 proper construction of these claims to be -- a person
24 of skill in the art at the time of the inventions. Who
25 would that person be and how would that person

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1 understand these claims.

2 BY MR. LU:

3 Q. Now, you have not applied claim construction
4 principles in construing these claim terms that are not
5 listed either on pages 26, 27, and 28 of your expert
6 report or elsewhere in your declaration; is that
7 correct?

8 A. I -- I -- I don't know if that's the same
9 question or a different question than one or two that
10 you asked already. It sounded like exactly the same
11 question. So what I'm going to do is take a couple of
12 minutes just to read these three pages and then respond
13 to that question.

14 By the way, in reading, I immediately see
15 that -- you asked what my understanding is of the role
16 of an expert with regard to claim construction, and I
17 mentioned that -- to the effect that my role is to
18 offer opinions as to how one of skill in the art would
19 understand these claims, what it would mean to a person
20 of skill in the art.

21 But I need to modify that. I'm looking at
22 paragraph 59 of my report. "Unless the terms have been
23 given a special meaning in the patent or related
24 documents, such as the prosecution history." So there
25 may be some understanding of how -- of what these

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1 phrases would mean to one of skill in the art. But
2 they may have been given a different interpretation or
3 special meaning in the patent or related documents. So
4 in such case -- in such cases, it would be my role as
5 an expert to identify that as well.

6 No.

7 Q. So all of the principles for claim
8 construction that you have relied upon for preparation
9 of your declaration are recited in those three pages of
10 your expert declaration?

11 A. The principles that I applied in forming my
12 opinions as to how these phrases should be construed
13 are based on these three pages.

14 Q. Now --

15 A. The instructions provided to me in these three
16 pages.

17 Q. Now, if they were additional legal principles
18 of which you were not aware, could that influence your
19 opinion?

20 A. I don't know.

21 Q. So it's possible it could influence your
22 opinion?

23 A. I -- I -- I don't know. You need -- you need
24 to give me a specific example.

25 Q. Let's go through these claim construction

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1 principles, and you can explain your understanding of
2 them to me.

3 So please explain your understanding of
4 paragraph 59 of the section in claim construction
5 principles.

6 MR. BERTIN: Object to form.

7 THE WITNESS: My understanding of paragraph 59
8 is that one of skill in the art would have an
9 interpretation as to what the words in the claims mean,
10 unless the terms have been given a special meaning in
11 the patent or related documents, such as prosecution
12 history.

13 So when I read the claims, I'm looking for a
14 deviation from what the words would ordinarily mean to
15 a person of ordinary skill in the art in that era. And
16 I look through the specification -- I look at the claim
17 itself. I look at the specification. I look at the
18 prosecution history and other related documents.

19 And based upon what I find there, I either
20 conclude, yes, this phrase has a plain and ordinary
21 meaning, or perhaps some clarification is needed in
22 light of the specification or the claim language itself
23 or related documents, or perhaps the inventor has
24 intentionally defined a phrase to mean X or -- and --
25 or any variation along this scale of, yes, everyone

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1 knows this is plain and ordinary. It's not used any
2 differently. And, no, the inventor has specifically
3 defined this in an unconventional fashion. There are
4 shades of gray between those two.

5 And what I did is attempt to find support in
6 the claim -- the specification and prosecution
7 history -- as to how one of ordinary skill in the art,
8 having read all of this, would construe the phrase.

9 BY MR. LU:

10 Q. Are there any claim terms for which you
11 believe the patentee or the inventor specifically
12 defined the claim term in an unconventional fashion?

13 A. Well, there are several cases where I believe
14 the inventors coined phrases or used phrases in an
15 unconventional fashion. And I even have opinions on
16 those expressed in my declaration. There may be other
17 instances where that was done as well, but I don't have
18 an opinion on that.

19 Q. Which phrases, in your opinion, were phrases
20 in which the inventors coined phrases or used phrases
21 in an unconventional fashion?

22 A. Reference symmetry, arterial bias, avoids
23 arterial bias, rules and predefined rules, being
24 suited, target area, several related terms, calculated
25 position information, calculated positions of the WIFI

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1 access points, calculated locations, and recorded
2 location information.

3 Q. Let's address each of those.

4 A. I'm -- I'm not finished.

5 Substantially, all WIFI access points in the
6 target area providing a reference database of
7 calculated locations of WIFI access points --
8 (Reporter interruption.)

9 THE WITNESS: Providing a reference database
10 of calculated locations of WIFI access points in a
11 target area. And I'm still not finished. The
12 means-plus-function terms.

13 By the way, you were asking me earlier how I
14 applied paragraph 59, and I tried to limit my answer to
15 only paragraph 59. But there's a whole different
16 section in my report describing the principles that I
17 applied for means-plus-function limitations that go in
18 the instructions, substantially more detailed than what
19 appear -- appears in paragraph 59. If you'd like me to
20 discuss those as well --

21 Q. No. We can address those --

22 A. And -- so then I guess you don't want me to
23 list the means-plus-function limitations that may have
24 a special or unconventional or defined meaning
25 different than what one of skill in the art might

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1 side. And this is a situation that the inventors
2 characterize as lack -- as being in lack of reference
3 symmetry.

4 BY MR. LU:

5 Q. And what is shown in figure 6? Just back
6 up -- back up a little bit on -- back to figure 5.

7 So we have calcu- -- calculated location of
8 user, marked with a little X. Do you see that?

9 A. I do.

10 Q. And we have user 501, which is a solid black
11 dot. Do you see that?

12 A. I do.

13 Q. And you see radio range of user device being
14 surrounded by a circle? Do you see that?

15 A. I do.

16 Q. Okay.

17 A. By the way, thanks for calling my attention to
18 that. The X in figure 5 is the location -- the
19 calculated location of the user. The actual location
20 is the -- the black circle. And all of the calculated
21 locations of access points are on one side of that
22 user. They're all to the left of that user. Some of
23 them are beneath the user, some of them are above the
24 user, but they're all to the left. And this again, is
25 a -- this is a situation that the inventors

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1 characterize as a "lack of reference symmetry."

2 Q. Okay. Let's turn to figure 6. Is this --

3 A. And if -- if -- if -- if I can go on. And the
4 section of the patent titled "reference symmetry" tells
5 us what the inventors mean by "reference symmetry" --
6 or what they're trying to express by the term
7 "reference symmetry," at least in the specification.

8 When I looked at that and tried to relate that
9 description to the claim language, I found that there
10 wasn't -- it wasn't a relationship. They didn't map
11 over. And I don't know where else to look for
12 reference symmetry. I scoured the patent and its
13 prosecution history, and as the phrase is used in the
14 claims, it -- it -- it -- it -- there simply isn't a
15 description.

16 Q. Let's turn to figure 6, what the inventors
17 have characterized as "positioning with reference
18 symmetry." Do you see that?

19 A. I do.

20 Q. Can you describe what's depicted in figure 6,
21 "positioning with reference symmetry"?

22 A. Well, yeah, I can. If you look at column 9,
23 beginning at line 64 -- and this is part of the
24 description of figure 6. In fact, it may be the
25 totality of description of figure 6.

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1 "With Chinese postman model of scanning for
2 access points, the user typically encounters a physical
3 location" -- figure 6, and -- "in which there are
4 numerous access point locations on all sides of the
5 users." So the user is 601, and there are numerous
6 access stations, 602, that we see marked on figure 6
7 that are, as the specification describes it, on all
8 sides of the user within range of the -- of the devices
9 802 radio. The resulting in position calculation has
10 reduced location bias and is more accurate as a result.

11 So that's what figure 6 is -- is showing. But
12 there's a real problem in -- in this regard. This
13 perhaps is what the inventors would like their
14 invention to produce. They have no way of knowing if
15 this is going to be produced or not because they have
16 no way of knowing in advance where the access points
17 are and whether it's possible to achieve this reference
18 symmetry that's represented in figure 6 and discussed
19 in the accompanying text. The access point locations
20 may not be conducive to production of reference
21 symmetry. It may really all be on one side of the
22 user.

23 So this reference -- that we had some
24 discussion earlier about whether things were achievable
25 or not, and here's an example of something that may not

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1 be achievable. It's something beyond control of
2 whoever is taking measurements of -- of access points
3 in an attempt to determine where the access points are
4 located. The access points may not be symmetrically
5 located around the user. It may not be possible to get
6 to this situations that the inventors are -- are -- are
7 striving for. Just may not be possible. It's
8 beyond -- it's beyond the control of the -- whoever's
9 taking the measurements.

10 Q. And what --

11 A. I think I -- I think I even discuss in my
12 expert declaration that what's not disclosed at all in
13 the patent is intentionally seeding the target area
14 with access points in an attempt to ensure access
15 symmetry. Otherwise, I just don't see how the
16 teachings of the patent can produce reference symmetry
17 as it's represented in figure 6 and described in the
18 specification.

19 And again, the claims -- the use of the phrase
20 in the claim don't even relate to this. They relate to
21 something else that's not discussed at all in the
22 specification.

23 Q. Just on that point, if a target is -- if a
24 targeted area is intentionally and densely seeded with
25 access points, a person having ordinary skill in the

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1 art would be more likely to be able to determine
2 reference symmetry, correct?

3 A. What do you mean by "determine reference
4 symmetry"?

5 Q. Well, you're talking --

6 A. Reference symmetry of what? Are we talking
7 now about the claim language or the specification?

8 Q. We're talking about the -- we're talking about
9 the specification.

10 A. Just the specification. Because again, as I
11 testified earlier, the use of the phrase in the claim
12 is different than what's described in the
13 specification.

14 In neither case would one know, a priori, what
15 this means without reading. In the case of the
16 specification, one can sort of glean what the inventors
17 meant. But in my opinion, it's not possible to ensure
18 that you've gotten to that there, no matter what
19 measurement technique you use. And it's with regard to
20 the claims. It -- it -- it -- it -- it just -- it --
21 it -- it -- it -- there's no suggestion as to what the
22 phrase means as it's used in the claim because it's
23 used -- there's a different reference in mind. I know
24 what the reference point is that they have in mind in
25 the specification. I don't even know what the

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1 reference point is in the -- in the claim.

2 And if you'd like, I can explain that.

3 Q. Well, let's get an answer to my question that
4 I originally presented which is: If you have an area
5 that is intentionally and densely seeded with access
6 points, known access points, a person having ordinary
7 skill in the art would be likely to be able to
8 determine reference symmetry in accordance with what's
9 described in the patent specification, correct?

10 MR. BERTIN: Object to form.

11 THE WITNESS: I'm -- I'm -- I'm -- I'm not
12 sure that's even a properly posed question.

13 BY MR. LU:

14 Q. Well, okay.

15 A. What I would know is that unless the access
16 points coincidentally were cited in such a way as to
17 provide this -- and now I'm going to read from the
18 specification -- "to provide a sufficient number of
19 reference point with balance or symmetry around the
20 user," then you could not have reference symmetry. And
21 that would suggest that you've got to intentionally
22 deploy the access points in such a way that you have
23 got a sufficient number and balance or symmetry around
24 the user no matter where the user might be. This --
25 this would be rather difficult to accomplish.

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1 And -- and that's as the phrased is used in
2 the specification. How it's used in the claim, it's --
3 it's just not described. One would not know how
4 it's -- what the phrase means as it's used in the
5 claim.

6 Q. Okay. So ultimately, the conclusion of your
7 paragraph 74 is that even practicing the technique
8 disclosed in the patent, illustrated in figures 5 and
9 6, one would have no idea of whether or not there is
10 indeed a condition of reference symmetry because the
11 location of the WIFI access points is simply not known?

12 MR. BERTIN: Object to form.

13 THE WITNESS: That's not what paragraph 74
14 says.

15 BY MR. LU:

16 Q. Okay. So what about my statement was
17 incorrect?

18 A. Well, you -- you -- you -- you tried to
19 characterize what you said was a conclusion I've drawn
20 in paragraph 74, and I don't think I've drawn that
21 conclusion.

22 Q. What is the conclusion that you draw
23 from paragraph -- in paragraph 74?

24 A. Well, the last line reads -- if that's a
25 conclusion -- there is a fundament -- thus -- and I

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1 gave the reasons why earlier in the paragraph -- "there
2 is a fundamental lack of any objective standard for
3 determining whether distribution of WIFI access points
4 might have reference symmetry with regard to a user."

5 And again, this does not relate to how the
6 phrase appears in the claim. There was a claim -- the
7 phrase is used differently in the claim. It's not with
8 regard to a user. The description in the specification
9 is with regard to a user.

10 Q. Okay. So turning back to figures 5 and 6 --

11 A. There was something else in your question
12 that -- that -- that -- that troubled me a little bit.

13 You asked about figure 5 and the conclusion
14 that I've drawn concerning --

15 Q. And 6?

16 A. Yeah. Figures 5 and 6.

17 Figure 5 has nothing to do with reference
18 symmetry. In fact, the -- except as an example of the
19 situation that lacks reference symmetry.

20 Q. Okay.

21 A. Now that -- that sort of gets to the heart of
22 what I've been trying to explain. Figure 5 may be the
23 reality. It may not be as a result of any particular
24 measurement technique or any particular location
25 technique. It may, in fact, be the case that there are

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1 access points located only on one side of the user, so
 2 there's nothing you can do to fix that. If reference
 3 symmetry means you have sufficient density of access
 4 points and they're uniformly spread around the user --
 5 here's an example of where that situation could not --
 6 is -- is simply unachievable. You can't -- you can't
 7 get to that point without intentionally laying down a
 8 whole bunch of additional access stations above the
 9 eight that are shown here, if these are, in fact, the
 10 locations of those eight access points. You're stuck.

11 Q. What's a sufficient number of WIFI access
 12 points, in your opinion?

13 A. You got me. Those are the inventors' words,
 14 not mine.

15 Q. Turning to figures 3 and 4 --

16 A. Okay.

17 Q. -- we have in this image known locations of
 18 WIFI access points, which are in black circles. We
 19 have calculated locations of access points, which are
 20 in white diamonds.

21 Do you see that?

22 A. Yes.

23 Q. And this is a example of a scanning scenario
 24 showing arterial bias.

25 A. Yeah. The so-called random model, where the
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1 collection of data was coincidentally some other reason
 2 for traversing the route.

3 Q. Okay. And I'd like you to put an X, if you
 4 won't mind, in the middle -- in the upper right-hand
 5 corner of the middle box.

6 A. You want me to mark it right on the --

7 Q. Yes, please?

8 A. -- on Exhibit 1 itself?

9 Q. On Exhibit 1 itself.

10 A. So you want me to put an X in the middle of --

11 Q. The upper right-hand corner of the middle box.

12 A. You mean just put an X here?

13 Q. Just put an X there.

14 A. Like that?

15 Q. Yeah. And why don't you put an X on figure 4
 16 as well.

17 A. Same spot?

18 Q. Same spot.

19 A. Done.

20 Q. Okay. Let me just grab my pen back.

21 And I'll tell you what. We're also going to
 22 draw a circle right -- right here.

23 A. You mean you want -- well, where you point,
 24 you want that to be the center of the circle.

25 Q. Yeah. Put that as the center of the circle.
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1 A. Okay. And how large a radius do you want me
 2 to draw?

3 Q. Just around the size of the other circles.

4 MR. BERTIN: So this is a circle that --

5 MR. LU: And let's label that --

6 MR. BERTIN: -- Dr. Acampora is being asked to
 7 draw in the lower left-hand corner of the center box on
 8 figure 4 of the 988 patent, just so the record is
 9 clear.

10 MR. LU: Let's label that circle "user."

11 Let's draw a similar circle in the exact same
 12 location with the exact same label on figure 3.

13 You can keep that. All right.

14 BY MR. LU:

15 Q. So getting back to figure 3. What we have
 16 here are calculated locations of WIFI access points
 17 that are in white diamonds and the location of the
 18 actual access points in black circles and then a blue
 19 circle, which is now labeled "user."

20 And we have in figure 4 the exact same thing,
 21 except that rather than simply driving artery 304 and
 22 artery 305, a Chinese postman routing methodology has
 23 been driven.

24 MR. BERTIN: And to be clear, the circles have
 25 been added to the -- to these figures. They don't
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1 exist in the patent by themselves.

2 MR. LU: Correct.

3 BY MR. LU:

4 Q. Now, Dr. Acampora, per the teachings of the
 5 patents, is there a greater degree of reference
 6 symmetry around the user in figure 4 than there is in
 7 figure 3?

8 A. Well, before I even attempt to answer that,
 9 I've got to ask a question.

10 Are you referring to the claims, or are you
 11 referring to the specification?

12 Q. My patent -- my question made it clear, per
 13 the teachings of the patent specifications.

14 A. So the specifications. So we're not -- we're
 15 not considering the claim. Again, the claim appears to
 16 use reference symmetry in some other way that's not
 17 defined at all. You can't glean what it is from claim
 18 or anything in the specification. It's indefinite.

19 So we're looking now only at the
 20 specification, as if I could rip the claims off and
 21 focus only on the specification.

22 Is that what you're asking me to do?

23 Q. Yes. That's what I'm asking you to do?

24 A. Okay. And the question once again is?

25 Q. Is there a greater degree of reference
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1 symmetry for the calculated location of WIFI access
2 points in figure 4 around "user" than there is in
3 figure 3?

4 A. Well, I -- I have to ask another question
5 before I can begin to answer that. What are the Xs
6 that you asked me to draw represent?

7 Q. You can ignore the Xs.

8 A. Ignore the Xs.

9 Okay. I think I understand your question.

10 And the answer is going to require a certain amount of
11 explanation. So let me try to be as brief as I can and
12 as clear as I can.

13 On the one hand, both figures 3 and 4 have the
14 same degree of reference symmetry with regard to the
15 user, which is the only context in which reference
16 symmetry is discussed in the specification because
17 location of the access points and location of the user
18 have not changed one bit. So let me give an example of
19 what I mean.

20 Let's suppose that the actual locations of the
21 access points are the -- the computed locations -- the
22 calculated locations are the actual locations. So I'm
23 going to divorce this notion of reference symmetry from
24 the scanning method for the moment.

25 Suppose I know exactly where the access points
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1 are located. The distribution of access points
2 relative to the user are what they are, and they appear
3 to be the same in both figures. Now, what the patent
4 appears to be saying is that with regard to the same
5 reference symmetry by a different measure, the
6 calculated locations relative to the random model and
7 the deliberate Chinese postman model -- it would appear
8 that the calculated positions are better distributed
9 around the user in figure 3 than figure 4.

10 But to draw that conclusion, once again, I
11 have to rely on the actual scanning method. So if the
12 invention -- if the inventors are intending to say that
13 if you use our deliberate Chinese postman routing
14 algorithm, you will achieve better reference symmetry
15 with regard -- with respect to the location of the user
16 than for the examples given in 3 and 4. That would
17 appear to be the case.

18 With regard to other language in the -- from
19 the -- drawn from exactly the same section of the
20 specification, the section discussing reference
21 symmetry, that refer to reference symmetry only with
22 regard to the locations of the access points relative
23 to the user, that's the same in both figures.

24 So the reference symmetry is what it is based
25 upon where the access stations are actually located.

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1 But the perceived degree of reference symmetry might be
2 affected favorably by using what I believe the authors
3 feel is their invention, deliberately driving every
4 street in the target area in according with the Chinese
5 postman routing algorithm.

6 And again, that's reference symmetry with
7 regard to the user, which has nothing to do with how
8 reference symmetry is used in the claims. It's used in
9 a different way. It's not discussed relative to the
10 user at all. In fact, one would not know how it's used
11 in claims.

12 Q. Turning to paragraph 75 of your declaration,
13 the statements that you make in that paragraph are
14 directed towards the statement that you just made which
15 is, "as used in the claims, one -- it's not discussed
16 relative to the user, and one would not know how it's
17 used in the claims." "It" being reference
18 symmetry -- strike that.

19 Why don't you explain what paragraph 75 says.

20 MR. BERTIN: Object to form.

21 THE WITNESS: Okay. So as I testified several
22 times already, the only discussion of reference
23 symmetry that would suggest what it means, how the
24 inventors use the phrase, is in -- there's a section on
25 reference symmetry in the specification. And that

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1 reference symmetry is discussed with regard to a user.
2 There's a known reference point. The point -- the --
3 the location of the user. And reference symmetry is
4 described with regard to some dense and uniform
5 distribution of access points relative to that point.

6 Now, when we look at the claim, we see no
7 language of that type whatsoever. In fact, what we do
8 see is -- so I'm reading from claim 1 now.

9 MR. BERTIN: That's of the 988 patent; is that
10 correct?

11 THE WITNESS: 988 patent, claim 1, correct.
12 Column 14, line 22, beginning with the "wherein."

13 "Wherein said calculated position information
14 is obtained from recording multiple readings of the
15 WIFI access points at different locations around the
16 WIFI access points so that the multiple readings have
17 reference symmetry relative to other WIFI access points
18 in the target area."

19 I have no idea what that means. We no longer
20 have a point of reference. We have multiple readings.
21 Somehow these multiple readings have reference symmetry
22 relative to other WIFI access points. In the
23 specification, reference symmetry is defined, A,
24 relative to a user -- the location of the user -- and
25 is described in such a way as to suggest that the

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1 access points are uniformly distributed and densely
2 distributed around that user.

3 Here, somehow, that concept of reference
4 symmetry is -- appears -- well, the words "reference
5 symmetry," not the concept -- but the words "reference
6 symmetry" appear -- regard to other WIFI access points
7 and multiple readings from different locations around a
8 WIFI access point. What -- what reference point must
9 the access points be distributed uniformly and densely
10 relative to, as was taught in the specification for the
11 known reference point of the user? I don't know where
12 the reference point is here. I -- I -- I -- I don't
13 know what they're talking about here.

14 MR. LU: Okay. Why don't we take a quick
15 break.

16 THE VIDEOGRAPHER: Off the record. The time
17 is 3:21 p.m.

18 (A brief recess was taken.)

19 THE VIDEOGRAPHER: We're going back on the
20 record. The time is 3:30 p.m.

21 MR. LU: So when we were off the record, we
22 reviewed some testimony that Dr. Acampora had provided
23 regarding figures 3 and figure 4 and, specifically, the
24 distribution of the calculated locations of the access
25 points in figure 3 compared to figure 4.

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1 The question was: "Was the distribution in
2 figure 4 -- did that have better reference symmetry
3 than the distribution in figure 3?" And the answer may
4 not have reflected -- at least as transcribed -- may
5 not have reflected Dr. Acampora's answer.

6 BY MR. LU:

7 Q. So would you like to comment on that
8 particular answer?

9 A. Yes. Figure 4 in the context of the question
10 and the context of the reply that was given appears to
11 have better reference symmetry than figure 3. Whereas,
12 as you read it to me off the record, the roles of
13 figure 3 and 4 were reversed.

14 Q. Thank you.

15 MR. BERTIN: Just to be clear, the rest of
16 your answer is accurate other than the transposition of
17 figures 3 and 4.

18 THE WITNESS: That is correct.

19 MR. BERTIN: Okay.

20 BY MR. LU:

21 Q. So let's turn to page 31 of your expert
22 declaration. And I direct your attention to paragraph
23 79 which states: "Based on my review of the
24 specifications and prosecution history, it is my
25 opinion that the term 'arterial bias,' standing alone,

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1 can be understood to mean the deviation from the
2 calculated position information for a WIFI access point
3 towards heavily trafficked roads and away from the
4 actual geographic location of the access point due to
5 the tendency of random scanning to result in a greater
6 number of scans from heavily trafficked roads."

7 Do you see that?

8 A. I do.

9 Q. What is the basis for your statement that this
10 is, quote, "due to the tendency of random scanning as a
11 result in a greater number of scans from heavily
12 trafficked roads"?

13 A. Okay. So this may be somewhat repetitive to a
14 discussion we had earlier today with regard to figure 3
15 in the 988 patent -- or it might have been from the 245
16 patent. But it's the same figure in either case and
17 the accompanying text from the specification. So let
18 me just locate that, and we'll review this.

19 Okay. So figure 3, example scanning scenario
20 showing arterial bias.

21 By the way, I'm using figure 3 from the 988
22 patent, but I'm going to assume that the blue markings
23 that you asked me to include are not present, so I'm
24 using the pristine figure 3 not the marked-up figure 3.

25 Q. That's fine.

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1 A. And what we have in figure 3, the black dots
2 represent the actual locations of access points. The
3 white diamonds represent the calculated position of the
4 access points. And the accompanying description, which
5 appears in column 7 and 8 of the patent, tells us
6 that -- and I'm reading now from column 7, line 52.

7 "The quality of the data collected is greatly
8 affected by the scanning methodology employed by the
9 scanning vehicles. Each model has its own benefits and
10 limitations. One approach, known as the random model,
11 places scanning devices in vehicles as they are
12 conducting daily activities for business or personal
13 uses" -- business or personal "use," singular.

14 "These vehicles could be delivery trucks, taxi
15 cabs, traveling salesmen or just hobbyists. The
16 concept is that over time, these vehicles will cover
17 enough streets in their own random fashion in order to
18 build a reliable reference database. The model does,
19 in fact, provide a simple means to collect data, but
20 the quality of resulting data is negatively affected
21 due to issues of arterial bias.

22 "Figure 3 describes the challenge of the
23 random model. When the scanning vehicle traverses
24 routes designed to solve other problems than gathering
25 data."

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1 BY MR. LU:

2 Q. So because the patent doesn't describe any
3 other way in which --

4 MR. BERTIN: Were you done with your answer
5 there?

6 THE WITNESS: I was not.

7 MR. LU: Okay.

8 MR. BERTIN: Do you mind just letting him
9 finish?

10 THE WITNESS: Yeah. The language that I was
11 referring to that we discussed earlier appears in
12 paragraph 21 of my report. "Their, quote, 'discovery,'
13 unquote, if any, appears to be a deliberate and
14 possibly unachievable effort to improve the accuracy."

15 So they're setting up this arterial bias.
16 They're telling us how it's created. And even the name
17 itself, "arterial bias," it's bias caused by the fact
18 that the measurements are being taken along arteries.
19 That's what they intended when they used the phrase
20 "arterial bias."

21 So the construction -- and I won't reread
22 it -- but it's exactly what I opine on in paragraph 79.
23 And that's just -- that's nothing more than a summary
24 of exactly what the inventors taught us they meant by
25 arterial bias in the specification.

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1 Now, is there another way that you could get
2 arterial bias? So suppose you drive the -- and this is
3 why the objectives of the invention might not be
4 achievable.

5 Suppose you drive some different route. Let's
6 call it a quasi- -- quasi-deliberate route so we're not
7 pinning it down to any specific routing algorithm. So
8 maybe you're driving on streets other than main
9 arteries. But as I testified earlier, there are
10 propagation effects of shadow-fading caused by line of
11 sight blockage by buildings, multipath propagation,
12 that can still cause the resulting access point
13 location calculations to be significantly in error.

14 Whether the errors would coincidentally cause
15 them to be bias towards arteries, that, I don't know.
16 But -- so, yeah, maybe you -- I -- I guess I'm
17 convincing myself even further that arterial bias can
18 only be caused by driving in this random way where
19 there would be a tendency to scan heavily trafficked
20 roads.

21 Coincidentally, and probably highly unlikely,
22 one might get arterial bias because of some
23 unpredictable propagation patterns. But that just
24 further shows that the objectives of the patent cannot
25 be guaranteed. But in any event, there's no doubt what

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1 the inventors mean by arterial bias. It's the only
2 description they give, and I had to struggle to create
3 a situation. And even as I was struggling to invent a
4 situation on the fly, I realize that that may not
5 result in arterial bias. It's more likely to result in
6 significant errors, but not necessarily arterial
7 bias -- arterial bias? The word itself "arterial,"
8 it's bias caused by the fact you're traveling the
9 arteries. This is quite clear.

10 BY MR. LU:

11 Q. Now, what if I were to provide instructions to
12 my drivers to drive a programmatic route but only to
13 take roads that had at least four lanes. Would that
14 create arterial bias?

15 A. Well, how many lanes are there on the average
16 roads? If -- if four -- if four lanes would be
17 regarded as a very wide road and other streets have one
18 lane, then that might be arterial bias. On the other
19 hand, if most roads have four lanes and a few roads
20 have eight lanes, then what you just described would
21 not produce what the authors intended by the use of the
22 phrase "arterial bias."

23 Arterial bias means you're scanning the
24 heavily trafficked roads, the main arteries, the big
25 streets. That's completely consistent with common

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1 sense and understanding, what we mean by an artery in
2 the vehicular traffic sense and what's disclosed in the
3 specification.

4 Q. But one can create arterial bias by scanning
5 that is other than random; in my example, instructions
6 to only drive streets that are at least a certain
7 number of lanes wide, correct?

8 A. Not as it's used in this patent, no, not
9 correct. The patent does not suggest that there --
10 they're setting up a problem. They're telling you how
11 that problem would commonly be -- would commonly occur.
12 A bunch of vehicles are sent out on a mission -- on
13 missions. Those missions are to get from point A to
14 point B. And as the patent describes, you're more
15 likely to navigate onto an artery, travel that artery,
16 and that's what's going to cause the arterial bias.
17 The patent does not suggest deliberately creating what
18 you're characterizing as arterial bias by instructing
19 the fleet to drive only on the main roads.

20 Now, if you instructed -- I think common sense
21 consistent with what's in the patent, why this arterial
22 bias exists, would be consistent with telling the fleet
23 to drive the main arteries because you want them to get
24 to their destination quickly. It's not an attempt to
25 create arterial bias as much as an attempt to get to

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1 diagram had sufficient detail that one could actually
2 identify unambiguous steps to be followed. It couldn't
3 be so high level as we know better than the box labeled
4 computer to begin with.

5 Q. So if there were a description that was
6 sufficient to identify unambiguous steps to be
7 followed, that description could disclose sufficient
8 structure, correct?

9 A. Where are you reading from now? If -- if
10 you're going to read from my report --

11 Q. That was not --

12 A. -- it might help if you tell me where.

13 Q. That was not a question from your report.
14 That was a question based upon what you just said about
15 flow charts. And -- I'll tell you what I'm trying to
16 get at.

17 Are flow charts and algorithms the only means
18 by which a sufficient structure can be disclosed? Flow
19 chart and code -- excuse me -- are the only means by
20 which a sufficient structure can be disclosed for
21 purposes of means-plus-function?

22 A. Probably not.

23 Q. Okay.

24 A. Things are coming to mind -- might be a
25 recipe. Do this, followed by this, add three cups of

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1 this, et cetera, et cetera. I could imagine a recipe
2 having enough specificity that I'd know -- one would
3 know how the computer was programmed.

4 Q. Okay. And if a description had sufficient
5 specificity to know how the computer would be
6 programmed, would that be sufficient structure for
7 means-plus-function?

8 A. If what had?

9 Q. A description, a written description --

10 A. Written description had --

11 Q. -- sufficient disclosure so that you would
12 know how to program the computer, would that be
13 sufficient structure under your understanding of the
14 law relating to means-plus-function?

15 A. Well, possibly. But that sort of just shift
16 with the debate. And that's why we really need to see
17 a specific example of what you're referring to.

18 The debate has now shifted to: Is the
19 description adequate to know how the computer is
20 programmed?

21 Q. Fair enough. I'm just trying to make sure
22 that there are no categories of, you know, information
23 that you would automatically say would not constitute a
24 description because it happens -- or constitute
25 sufficient structure because it happens to fall into

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1 one category rather than another category.

2 A. I understand.

3 Q. Okay.

4 Now, turning to paragraph 86, it states: "As
5 discussed below, I have considered the claims and
6 here's my opinion that logic is not a structure and
7 that these terms are therefore means-plus-function
8 terms."

9 "I have reviewed the disclosure of the 988
10 patent and for the reasons discussed below, it is my
11 opinion it does not disclose corresponding structures
12 capable of performing the functions stated in the logic
13 limitations."

14 Now, the first question is: Is this
15 statement -- are these two statements made in paragraph
16 86 true for all six of the logic terms listed in
17 paragraph 84?

18 A. I believe the answer to the question is yes.
19 But if you'd like an unambiguous confirmation of that,
20 I'll need to read -- reread my opinions for each of
21 them. But I believe the answer to the question is yes.

22 Q. Okay. Now paragraph, 87 states: "Logic is
23 not a structural term."

24 Do you see that?

25 A. I see that.

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1 Q. What is your -- what did you mean when you
2 said "logic is not a structural term"?

3 A. When I see the word "logic," I don't know what
4 the structure of that logic is. So as I write: "A
5 person of ordinary skill in the art would understand
6 logic to mean a series of defined steps for performing
7 function as opposed to a structure." So "logic" is
8 functional, not physical.

9 You know, thinking could be logical, as an
10 example. So you need to see more context. You need to
11 see the language of the claim itself. You need to go
12 back to the specification in order to infer what, if
13 any, structure corresponds to logic. If the claim term
14 is written so that the logic is as it appears in the
15 claim, is defined only by what it does.

16 Q. Now, the patent relates to a WIFI location
17 server; is that correct? The 988 patent, claim 1,
18 relates to a WIFI location server, correct?

19 A. That's how the preamble reads.

20 Q. Okay. What is your understanding of what a
21 WIFI location server is?

22 A. Well, I'm not aware that that's a term that's
23 in dispute. If it is, I certainly haven't offered an
24 opinion on it, so I'm not going to create an on-the-fly
25 claim construction. That will take lot of time. If

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1 you'd like me to, I can try, but I can tell you that
 2 will take time because I haven't been asked to do that,
 3 and I haven't got an opinion on that.
 4 Q. So in interpreting the logic terms of the 988
 5 patent, you did not consider what the meaning of a WIFI
 6 location server is, correct?
 7 MR. BERTIN: Object to form.
 8 THE WITNESS: No. I didn't say that either.
 9 BY MR. LU:
 10 Q. Okay.
 11 A. But you -- you asked me for a construction,
 12 and that I'm not prepared to do. Whether I considered
 13 the preamble with regard to these logic limitations,
 14 well, sure. I read the entire patent, including the
 15 claim, and all parts of the claim, including the
 16 preamble.
 17 Q. Okay. So did you have an understanding when
 18 you interpreted the logic terms what a WIFI location
 19 server is?
 20 A. Well, I have an understanding of what that is
 21 with regard to the parts of it as claimed in claim 1.
 22 Q. Okay.
 23 A. Except that I don't know what these logic
 24 things are because they were defined only by the
 25 function.

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1 So I know that -- I could sort of see what --
 2 based upon what's written in the specification, this
 3 location server is some sort of a thing that is being
 4 accessed by WIFI users -- that's being queried by WIFI
 5 users in an attempt to determine the location. And
 6 it's created by means of some this deliberate scanning
 7 algorithm, the Chinese postman. I would understand
 8 that.
 9 But then the claim goes on. It's -- it's --
 10 it's -- it's telling -- then it's telling us exactly
 11 what's being claimed, and that's where I fall off the
 12 bandwagon because there is some -- some of these terms,
 13 in my opinion, are indefinite.
 14 Q. So "thing." A WIFI location server can be a
 15 human brain?
 16 MR. BERTIN: Object to -- object to form.
 17 Argumentative.
 18 THE WITNESS: I would not interpret this -- I
 19 don't think one of skill in the art would interpret the
 20 server to be a human brain.
 21 BY MR. LU:
 22 Q. Okay.
 23 A. It's telling us it's comprising a database of
 24 WIFI access points. So there's got to be a database.
 25 It can be -- it can't be only a brain.

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1 Q. So it's a computer, correct? A WIFI location
 2 server is a computer, correct?
 3 A. Well, possibly. In the -- at -- completely
 4 out of context, a server would be -- one of skill in
 5 the art would have some understanding that the server
 6 is some type of a computer.
 7 Q. Now, is the term "logic" in the field of
 8 electronics a purely functional term?
 9 A. You need to be more specific. If -- if the
 10 logic that's -- when you say "in the field of
 11 electronics," if the logic is given in the form of
 12 bunch of Boolean operations to be performed -- to be
 13 performed, then it is presented in functional form,
 14 yes.
 15 Q. But --
 16 A. If it's a specific circuit showing gates and
 17 interconnection of gates and so forth and so on to
 18 accomplish some tasks, then perhaps. But again, we
 19 need to -- I'm sort of borderline speculation right
 20 now. Then perhaps it's -- it's not just functional
 21 form but actually showing a block diagram, so I would
 22 know how to build this thing. And I need -- then I
 23 would need to see the context.
 24 Q. Okay.
 25 A. But none of that, by the way, is presented in

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1 this patent. There are no circuit diagrams.
 2 Q. So you would disagree with a definition of
 3 logic that would included hardware, such as
 4 applications, specific integrated circuit, or
 5 field-programmable gate array software, or a
 6 combination of hardware and software?
 7 A. What logic? The claimed logic?
 8 Q. Just -- just the use of the word "logic."
 9 A. I -- I need this in context.
 10 Q. Okay. So in the context of computer and
 11 computer electronics, you would disagree with a
 12 definition of logic that would be hardware, such as an
 13 application, specific-integrated circuit, or a
 14 field-programmable gate array software, or a
 15 combination of software and hardware, correct?
 16 A. At this point I would neither agree nor
 17 disagree. I need to see more context.
 18 Q. Have you heard the phrase "emitter-coupled
 19 logic"?
 20 A. I have.
 21 Q. What is emitter-coupled logic?
 22 A. It's a type of electronics. It's a -- I
 23 believe it's a type of bipolar electronics that's
 24 actually capable of operating at substantial clock
 25 speeds.

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1 So that might be an example of something of
 2 logic in electronics that's not purely functional.
 3 I've read the circuit diagram. That circuit diagram
 4 is -- is -- represents the electronics that has been
 5 fabricated on a chip. And it -- I know the Boolean or
 6 truth table functionality that the chip is performing.
 7 There I think there's some structure.
 8 Q. Is custom high-speed logic structural or
 9 functional?
 10 A. Don't know. I need to see the -- I would need
 11 to see the -- the context.
 12 Q. Are logic families structural or functional?
 13 Are commercially available logic families structural or
 14 functional?
 15 A. I need to see the context once again.
 16 MR. BERTIN: Object to form.
 17 BY MR. LU:
 18 Q. Is reconfigurable logic structural or
 19 functional?
 20 A. Well, I -- I -- I -- again -- and let me this
 21 time try to elaborate a little bit. I would need to
 22 see the context.
 23 If it's reconfigurable logic for performing a
 24 function and the specification included a block
 25 diagram -- a circuit block diagram of that

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1 reconfigurable logic that performs that function, then
 2 that might denote something other than function.
 3 But if there's no description in the
 4 specification whatsoever about this reconfigurable
 5 logic for performing this function -- no Boolean
 6 operations, no truth tables, no flow chart -- then, in
 7 my opinion, that would be functional.
 8 Q. And --
 9 A. And that's why I said you'd need to tell me
 10 the context.
 11 Q. Is emitter-coupled logic structural or
 12 functional?
 13 A. I -- I don't even know how to comprehend that
 14 question. Does structural --
 15 Q. Does emitter-coupled logic bring to mind a
 16 structure, or is that a purely functional term?
 17 A. It brings to mind a class electronics, so it's
 18 neither structure nor function. It brings to mind a
 19 class of electronics.
 20 Q. Something that you can hold in your hand?
 21 A. It brings to mind a class of electronics.
 22 That's all. I know what emitter-coupled logic is.
 23 It's not necessarily something I can hold in my hand.
 24 It's a technology that can be used to build chips. So
 25 it's not something I can hold in my hand, no.

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1 Q. Is a programmable logic array something that
 2 can be held in your hand?

3 A. I can buy a PLA, a programmable logic array.
 4 But all that is is a bunch of gates that have not yet
 5 been programmed at that point. So that's -- that --
 6 that -- that -- it -- it -- it -- that's a bunch of
 7 gates.

8 Q. Can you buy a emitter -- an emitter-coupled
 9 logic device?

10 A. Let me see if I can help you out. Can I buy a
 11 chip that was built using emitter-coupled logic
 12 technology?

13 Q. Sure.

14 A. Yes.

15 But once again, if I saw the phrase -- because
 16 again, we are talking here about -- I came here to
 17 testify about construction of certain phrases using
 18 these patents, and you're asking me a bunch of
 19 abstractions. So I need to be sure that you're not
 20 going to misapply some of the responses that I'm
 21 giving.

22 If I saw emitter-coupled logic for performing
 23 some function in a claim specification and -- and --
 24 and -- and -- and in a claim -- it's a limitation of a
 25 claim, and the specification does not show me the block

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1 diagram for that emitter-coupled logic, then whether I
 2 know that emitter-coupled logic thing is something I
 3 could hold in my hand or not is still being described
 4 functionally. I need the block diagram, a flow chart,
 5 something that's describing how this emitter-coupled
 6 logic is structured. I need something more than just
 7 the phrase "emitter-coupled logic."

8 You're asking can I -- can I hold a chip that
 9 was built based upon emitter-coupled logic in my
 10 hand -- emitter-coupled logic technology. Answer, yes.
 11 If I see emitter-coupled logic for performing a
 12 function in a claim, I'd have to go back to
 13 specification to find out whether there's any
 14 disclosure of the blocked diagram, the circuit
 15 connections, a flow chart, something, to tell me when
 16 that emitter-coupled logic used in the claim is
 17 structure. And if it's not in the specification, then
 18 it will be my opinion that emitter-coupled logic is
 19 being described purely in functional terms.

20 MR. LU: Why don't we take a short break since
 21 we're about to run out of tape.

22 THE VIDEOGRAPHER: This marks the end of
 23 Media No. 3 of the deposition of Dr. Anthony Acampora.

24 We're going off the record, and the time is
 25 4:30 p.m.

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1 (A brief recess was taken.)
 2 THE VIDEOGRAPHER: Here begins Media No. 4 in
 3 the deposition of Dr. Anthony Acampora.
 4 We're back on the record. The time is
 5 4:39 p.m.
 6 BY MR. LU:
 7 Q. Dr. Acampora, I'd like you to turn to page 49
 8 of your declaration.
 9 A. I'm there.
 10 Q. And I'd like you to take a look at
 11 paragraph 121 and any other portions of this section
 12 that you need to review in order to answer any
 13 questions.
 14 First question I have for you is: Outside the
 15 context of the patent specification, do you have an
 16 understanding of what a "rule" is?
 17 A. So outside of the context of the patent, as I
 18 understood your question, I would understand a "rule"
 19 to be an instruction to be followed.
 20 Q. And --
 21 A. Like add a cup of water, mix thoroughly.
 22 Q. Would a rule also include a statement like:
 23 If A, do B; but if C, then do D?
 24 A. Again, we're outside the context of the
 25 patent?

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1 Q. Yes. Outside of the context --
 2 A. So you're asking is that -- is that an example
 3 of a rule? And suppose I know what A and B are and C
 4 and D are, then, yes, that might be a rule.
 5 Q. Okay. Now, outside the context of the patent
 6 specification, do you have an understanding of what a
 7 "predefined rule" would be?
 8 A. That's less clear. There I think one would
 9 need -- one would need some context to get an
 10 understanding of what a "predefined rule" is.
 11 Q. Do you have an understanding of the phrase
 12 "predefined" standing on its own --
 13 MR. BERTIN: Object to form.
 14 BY MR. LU:
 15 Q. -- outside of the context of the patent
 16 specification?
 17 A. Well, no. I -- I don't. I can tell you what
 18 comes to mind, but that's not to say that it's correct.
 19 So suppose I'm going to perform some process.
 20 But that's a big "if." I'm not sure that's a context
 21 in which "predefined" is being used or not. And again,
 22 we're not talking about the patent at all now.
 23 So maybe there's some sort of a process that's
 24 going to be performed. "Predefined" might mean
 25 something that was defined before this process was

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1 begun, as an example. That -- that might be, but I'm
 2 not sure that that would be the only understanding of
 3 "predefined." That's just by way of -- really more by
 4 way of example. So I don't know what a "predefined
 5 rule" is, absent context.
 6 Q. Okay. Let's turn to paragraph 123. The
 7 second sentence, referring back to the term "being
 8 suited," states that "it is applied apparently to
 9 different types of equations or algorithms that can be
 10 used for different numbers of access points."
 11 What is -- what did you mean when you wrote
 12 that sentence?
 13 MR. BERTIN: Object to form.
 14 THE WITNESS: Well, once again, I think the
 15 words speak for themselves. So are you asking me to
 16 state what I'm written here differently?
 17 BY MR. LU:
 18 Q. Well, I'm trying to understand what is meant
 19 here because it's not absolutely crystal clear to me
 20 what -- what you're stating here.
 21 A. Well, in a role reversal, let me ask, what's
 22 not clear about it?
 23 Q. Well, the word "apparently to different types
 24 of equations or algorithm," what equations or
 25 algorithms are you referring to there?

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1 A. Well, in -- in the claims, if I look at -- if
 2 we look at claim 1 of the 245 patent, next to last
 3 element, the claim speaks about choosing a
 4 corresponding location/determination algorithm. From
 5 plurality of the location/determination algorithms,
 6 said chosen algorithm being suited for the number of
 7 identified WIFI access points.
 8 So your question was, as -- as I understood
 9 it, related to what's the location determination
 10 algorithm? Was that your question?
 11 Q. Well, my -- my question was, what are you --
 12 to what were you referring when you made reference to
 13 "algorithms" in that second sentence of paragraph 123?
 14 MR. BERTIN: Object to form.
 15 THE WITNESS: Different methodologies.
 16 Methodologies expressed by some sort of a mathematical
 17 relationship.
 18 BY MR. LU:
 19 Q. So an algorithm requires a methodology
 20 expressed by a mathematical relationship, correct?
 21 A. Well, mathematical in the most general sense.
 22 It might be some sort of a -- it might be Boolean math
 23 as opposed to real-number arithmetic. But there'd be a
 24 procedure to be followed. Well, it's equations or
 25 algorithms. So a procedure to be followed. And I

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1 guess it may be expressed by means of some sort of
2 logic or instructions or mathematical symbolism. But
3 that's what I get from reading the specification.
4 BY MR. LU:

5 Q. So an algorithm in this instance can be an
6 equation, Boolean logic, a series of instructions.
7 Anything else?

8 A. Well, let me go back to the specifications.

9 MR. BERTIN: Can you read back the question?
10 (Record read.)

11 MR. BERTIN: Object to form.

12 THE WITNESS: Okay. Here's the difficulty
13 that I'm having in addressing your question. But by
14 explaining the difficulty, maybe I'll answer your
15 question.

16 "Being suited" appears in claim 1 of the 245
17 patent. And I read some of the claim language, and
18 that claim language, again, is suggesting that there
19 are different types of -- let's be specific --
20 different types of algorithms -- different algorithms,
21 in any event, that it be chosen from among. So I'm
22 going to choose an algorithm being suited from some
23 number of algorithms.

24 And again, these algorithms are described in
25 the specification. Specification refers to simple

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1 signal strength, weighted models, nearest neighbor
2 models combined with triangulation techniques, adapted
3 smoothing based on device velocity, different equations
4 perform better under different scenarios and tend to be
5 used together in hybrid deployments to product the most
6 accurate final readings. Preferred embodiments --

7 (Reporter interruption.)

8 THE WITNESS: Preferred embodiments of the
9 invention can use a number of positioning algorithms.
10 Decision of which algorithm to use is driven by the
11 number of access points observed and the user case
12 application using it."

13 And it goes on. But it describes some
14 filtering techniques, common filters. That's where the
15 math -- or the equations come in. But also some broad
16 references made to all of these algorithms from among
17 which one might be chosen -- that one being best
18 suited, whatever that means -- there's actually only
19 one algorithm this close. I actually don't know
20 what -- all of the different algorithms are. The
21 patent doesn't tell me what they are. It simply says,
22 there are a whole bunch of different things that you
23 could do, but it doesn't reveal what they are, except
24 in one instance -- the equations appearing in column
25 12, or the same equations weighted by the C parameter

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1 in the event that the numerical accuracy needs to be
2 improved.

3 So there are a set of equations, and -- given
4 in column 12. And when I go back to the claim, I see
5 that the claim actually requires some plurality of the
6 algorithms. And then I'm gonna -- and I'm not sure
7 what those algorithms are. There's one algorithm
8 that's actually shown. And then I'm going to choose
9 one that's best suited, whatever that means.

10 So I'm concluding that these algorithms are
11 rules or mathematical descriptions, something of this
12 type, based upon what I'm reading here.

13 BY MR. LU:

14 Q. The patent claims reference that the
15 algorithms can include a simple, signal-strength,
16 weighted, average model. Do you see that? That's in
17 the appended claim 6?

18 A. I do.

19 Q. Do you have an understanding of what a simple,
20 signal-strength, weighted, average model would be?

21 A. Well, I think we discussed that earlier today.

22 Q. Fair enough. So I think it the answer is
23 "yes"?

24 A. I -- well, yes.

25 Q. Okay. Dependent claim 7 says: "The plurality

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1 of the location determination algorithms includes the
2 nearest neighbor model."

3 Do you know what a "nearest neighbor model" is
4 in terms of a location determination algorithm?

5 A. No.

6 Q. Okay. Claim 8 says: "The plurality of the
7 location determination algorithm includes a
8 triangulation technique."

9 Do you know what a "triangulation technique"
10 would be in the context of location determination?

11 A. Yeah. I believe I have an opinion on that in
12 my report. I think I know what a -- what -- what a
13 triangulation technique is.

14 A location determination algorithm that
15 includes a triangulation technique -- not from what I'm
16 seeing in this specification, no. In fact, I'm finding
17 that to be quite ambiguous.

18 Q. Okay. Do you have a -- turning to dependent
19 claim 9, do you have an understanding of what an
20 "adaptive smoothing technique based on device velocity"
21 might be in the context of a location determination
22 algorithm?

23 A. Well, I might have some understanding of what
24 an adaptive smoothing technique is. Based upon device
25 velocity, no. But moreover, the claim is to -- is

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1 referring back to the method of claim 1, wherein the
2 plurality of location determination algorithms includes
3 an adaptive smoothing technique based on device
4 velocity.

5 Well, here, I have some understanding of what
6 adaptive smoothing is. Adaptive smoothing based on
7 device velocity, no. And location determination
8 algorithm including adaptive smoothing technique based
9 on device velocity, again, no. Not from what's taught
10 in the specification and not from anything outside of
11 this either.

12 Q. Now, if one were to have multiple location
13 determination algorithms and use each of those multiple
14 location determination algorithms with a particular
15 number of WIFI access points and determine that one
16 performed better than the others, is that something
17 that one of ordinary skill in the art could do?

18 A. I'm going to ask you to repeat that question.
19 But first, we need to do something about the glare that
20 is blinding me right now.

21 Q. Which pane is it coming through?

22 A. It's coming through this one here, but I'm not
23 sure what we can do since those shades are not
24 providing enough -- now, we may actually need to hang
25 something up. That -- that -- that just is -- I --

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1 I -- I -- I really can't go on like this, at least not
2 in this position.

3 MR. BERTIN: Do you want to take a break?

4 MR. LU: Sure. Let's take a short break.

5 MR. BERTIN: And reposition you is probably
6 the easiest thing.

7 THE VIDEOGRAPHER: We're going off the record.
8 The time is 4:58 p.m.

9 (A brief recess was taken.)

10 THE VIDEOGRAPHER: We're back on the record.
11 The time is 5:07 p.m.

12 BY MR. LU:

13 Q. I'd like you to turn to page 51, and
14 specifically paragraph 125 of your declaration. Second
15 sentence of paragraph 125 states: "As discussed above
16 the common specification is dominated by a single
17 method for creating the database, which involves
18 driving a vehicle in a systematic manner along every
19 street."

20 Do you see that?

21 A. I do.

22 Q. What do you mean by "dominated by a single
23 method"?

24 A. Okay. Well, we had a good deal of discussion
25 about this for much of today.

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1 Q. Well, let me narrow my question a little bit.

2 When you say "dominated by a single method,
3 are there alternative methods disclosed in the patent
4 specification for creating the database?"

5 MR. BERTIN: Object to form.

6 THE WITNESS: No. There were -- there were --
7 there are one-sentence sound bytes, if you will, but no
8 discussion of how it would be done, leaving one to sort
9 of scratch one's head -- what's meant by this.

10 BY MR. LU:

11 Q. Would one of ordinary skill in the art know
12 how to create a database which involves driving a
13 vehicle in a systematic manner around -- along every
14 street without using the Chinese postman model?

15 A. Not without some further description.

16 Q. Would one of ordinary skill in the art know
17 how to drive a vehicle in a systematic manner along
18 every street without utilizing the Chinese postman
19 model?

20 A. Would one know how as opposed to could one
21 create some alternative to the Chinese postman?

22 Q. Well, let's --

23 A. No. I think one would -- would need to ponder
24 that for a while and figure out how to do it.

25 Q. What is your --

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1 A. And then there'd also be some limitations of
2 cost, time, and other factors to take into
3 consideration as well.

4 Q. What do you mean by "there could also be some
5 limitations of cost, time, and other factors to take
6 into consideration as well"?

7 A. Well --

8 MR. BERTIN: Object to form. Asked and
9 answered.

10 THE WITNESS: If I thought about it, I could
11 probably create some sort of a brute-force approach,
12 like marking on a map every street that I've driven
13 along and then occasionally looking at the -- the --
14 the -- the marked-up map to see where I haven't driven
15 and then go back out and drive those. And by brute
16 force, given enough time and given enough money and
17 given enough gasoline, eventually being sure that every
18 street on my map has an X to it. That's brute force.

19 But even that's not suggested in the patent at
20 all. So I don't think that was -- that was the intent.
21 There's a systematic manner, not a brute-force manner.
22 And I don't know what that system -- what -- the only
23 systematic manner that's disclosed is the Chinese
24 postman, and one would have to create an alternative --
25 in my opinion, one would have to create an alternative

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1 their building.

2 Would all but an insignificant number, as you
3 interpret that claim, require the capture of those WIFI
4 access points that are shielded so that they cannot be
5 captured from the street, using any technology?

6 A. I -- I understand the question. What claim
7 are we discussing here?

8 Q. Well, both of the independent claims, the 988
9 and the 694 patents.

10 A. So let's just discuss one of them. I
11 haven't -- I haven't reached the 988 patent first.

12 So as I understood your question, if all of
13 the access points were enclosed in the Faraday cage --
14 let's say a small Faraday cage -- not one that would
15 actually extend over streets that a van -- that the van
16 is driving up and down. But these are small Faraday
17 cages that don't extend over any streets.

18 Then I don't think that -- I can't imagine the
19 situation where one would -- where one could infringe
20 this claim if every access point were captured in a
21 Faraday cage. But because there would be no access
22 points in the database. There wouldn't be no database
23 of WIFI access points in that case.

24 Q. So by that reasoning as well, one would not
25 infringe the claim if somehow all of the -- all but an

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1 insignificant -- strike that.

2 So by that same reasoning, if building
3 interference alone was sufficient to prevent WIFI
4 access point signals from exiting the building and
5 being captured on the street, those WIFI access points
6 would still need to be captured. And all but an
7 insignificant number would need to be captured in order
8 to infringe the claim, correct?

9 A. Well, the claim requires a database of WIFI
10 access points. And included in that database are
11 records for substantially all WIFI access points in the
12 target area. And substantially, all means -- all but
13 an insignificant number of. Well, again, since we're
14 dealing with the claim term, let me be precise.

15 The disputed term is substantially all WIFI
16 access points. And my proposed construction is -- and
17 I should have bold fast -- faced these constructions so
18 I could find them easily. "All but an insignificant
19 number of WIFI access points in the target area."

20 So in the scenario that you just painted, some
21 reason the signals can't get out of the buildings, but
22 you haven't put in Faraday cages, which means some of
23 the signals did leak out. You're not -- so we're no
24 longer talking about a complete electromagnetic shield.
25 Then you made your heroic attempt; you've done the

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1 Chinese postman routing; you've used the special van
2 with the directive antennas.

3 One of the problems I'm having is that the
4 patent doesn't tell you how much directivity to use in
5 these antennas. So if I have something other than a
6 perfect shield around these access points, I could
7 deploy a van with a sufficiently large aperture antenna
8 that I'm going to capture all but an insubstantial
9 number of the access points by driving this Chinese
10 postman routing algorithm.

11 And maybe it's in the eye of the beholder. If
12 after the end of the day, whoever is responsible for
13 gathering data comes back to the -- back to the office
14 and concludes, I haven't got enough files. I know
15 there were more access points out there. Maybe the
16 next day they go back out with a bigger antenna. I
17 don't know.

18 Q. But what your -- but the claims -- all but --
19 substantially all of the WIFI access points, as you
20 understand it, requires a heroic effort, including the
21 use of directional antennas, such as the ones that are
22 disclosed in the patent specification?

23 MR. BERTIN: Object to form. Mischaracterizes
24 his testimony.

25 THE WITNESS: That's not what I said.

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1 The patent mentions the use of directive
2 antennas. Whether they're necessary or not to -- I
3 don't think that the use of the directive antennas is
4 necessarily a limitation of the claim.

5 But unless you've gotten all but an
6 insubstantial number of those access points recorded in
7 the database, you haven't met this claim limitation.
8 And perhaps the only way to get to that point is by
9 deploying a van with directive antennas. It depends on
10 the situation.

11 BY MR. LU:

12 Q. So continuing on with that paragraph, you
13 state: "Skyhook's rewriting would exclude the purpose
14 of the disclosed collection method from the boundaries
15 of the claim. For example, a target area might be
16 scanned in 500 WIFI access points included in the
17 database of claims. Six months later, there might now
18 be 1,000 WIFI access points in that same area. If the
19 target area had not been rescanned during that time,
20 the database would still have 500 access points and
21 will still have substantially all observed WIFI access
22 points simply because no observations had been made
23 during a time in which the actual number of WIFI access
24 points present changed dramatically. Skyhook's
25 proposed construction would destroy the usefulness of

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1 the target area. I think you're asking me a different
2 question.

3 If -- here's what I'm hearing you ask. If
4 substantially, all WIFI access points means all but an
5 insignificant number of WIFI access points in the
6 target area, would I know what that claim limitation
7 meant?

8 Q. Would I know whether that claimed limitation
9 were ever met?

10 A. I don't know. I -- I actually have not got an
11 opinion on that. I would need to think about that
12 probably fairly deeply. I -- I don't know.

13 Q. Because I wouldn't know -- because one
14 wouldn't know whether or not some paranoid, wearing an
15 aluminum foil hat hasn't put, you know, 1,000 WIFI
16 access points within a Faraday cage within his
17 building, correct?

18 MR. BERTIN: Object to form.

19 THE WITNESS: That's not the only reason.

20 BY MR. LU:

21 Q. But there are other reasons because a WIFI
22 access point might be located underground not -- and
23 still in a target region, correct?

24 A. That's another reason.

25 There are -- that's the problem why I -- at

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1 this point I actually haven't got an opinion on that
2 because I'd have to think about these different
3 scenarios and which one of those were covered by the
4 claims and which ones are -- are not covered by the
5 claims. I -- I don't know. The -- the -- the -- the
6 claim might be indefinite for that reason. It's --
7 it's -- in my opinion, it is indefinite for other
8 reasons. But that particular reason, I don't actually
9 have an opinion on that at this moment.

10 I wasn't have to provided one, and I didn't.
11 I was just asked to give my opinion as to, what
12 substantially all WIFI access points means.

13 Q. Would, substantially, all WIFI access points
14 require one to take a survey of possible WIFI access
15 point holders in order to determine whether they have a
16 WIFI access point in the target area.

17 MR. BERTIN: Object to form. Asked and
18 answered.

19 THE WITNESS: I didn't understand the
20 question.

21 BY MR. LU:

22 Q. How would one count -- how would one determine
23 what all of the WIFI access points would be in a
24 particular target area?

25 Let me put it to you differently.

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1 A. I haven't formed an opinion on that.

2 Q. Let me put to you differently.

3 As an expert in WIFI technology, if I were to
4 ask you how would you go about determining the number
5 of WIFI access points on the island of Manhattan, how
6 would you go about doing that?

7 He smiles.

8 A. Yes.

9 MR. BERTIN: Object to form.

10 THE WITNESS: First, you'd have to give me the
11 budget. Then I would tell you if I thought it was
12 possible, given the budget and the time. So you -- you
13 need to give me --

14 BY MR. LU:

15 Q. Million dollars. Million dollars and one
16 year.

17 MR. BERTIN: Object to form.

18 BY MR. LU:

19 Q. That's the budget; that's the time.

20 A. You know, I -- even then I'm not sure it could
21 be done. One thought that's going through my mind is
22 setting out on foot, knocking on doors, looking for
23 access points, and maybe even needing to buy my way
24 into the premises to do a visual inspection. So I -- I
25 might run out of your million-dollar budget before I

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1 got a -- if I start at Battery Park, I may not get past
2 Wall Street and run out of budget. I -- I don't know.
3 You're really creating a -- a -- a wild hypothetical
4 here.

5 Q. And it would be crazy because they'd be adding
6 WIFI access points, potentially, in Battery Park by the
7 time you got up to Wall Street, right?

8 A. Well, that's another problem.

9 Q. Okay.

10 MR. LU: Can we take a short break, figure out
11 if we have any other --

12 MR. BERTIN: Sure.

13 MR. LU: -- what other line of questioning,
14 and then maybe conclude.

15 THE VIDEOGRAPHER: We're going off the record.
16 The time is 5:36 p.m.

17 (A brief recess was taken.)

18 THE VIDEOGRAPHER: We're back on the record.
19 The time is 5:40 p.m.

20 MR. LU: We have no further questions, and so
21 we can go off the record.

22 MR. BERTIN: Okay. And I have no -- I have no
23 questions either. Thanks to all.

24 MR. LU: Thank you.

25 THE VIDEOGRAPHER: This concludes today's

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